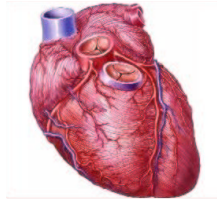
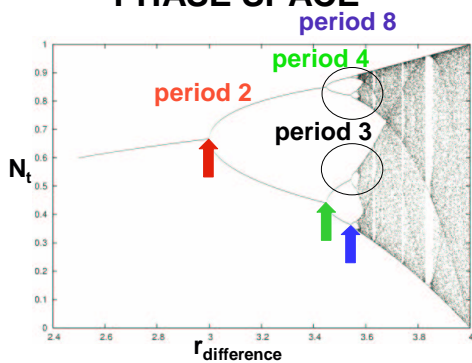


CHAOS & BIOLOGY



heartbeat

PHASE SPACE



COMPLEX DYNAMICAL SYSTEM

properties:
iterative
nonlinear
inaccuracies are compounded
exhibits sensitive dependence on initial conditions ('butterfly effect')

CHAOS

deterministic
equations can be used to predict future
BUT

unpredictable
behaviour 'irregular'

'order within disorder'
(e.g., period 3 — all other periods;
'chaos' in 1-D)

OTHER EXAMPLES

heart defibrillators

psychopathological conditions

circadian rhythms
